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What Determines Trust in International Organizations?

An Empirical Analysis for the IMF, the World Bank, and the WTO

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So far no existing study has analyzed what determines people's trust in the IMF, the World Bank, and the WTO even though – in the absence of democratic accountability – this is one of the few ways to assess the legitimacy of these institutions. This study is intended to fill this gap in the literature based on Eurobarometer survey data from the EU-15 countries. The estimation results suggest that individual characteristics (gender, international background, formal education level, personal income, ideological preferences, interest in politics, and exposure to media) as well as the extent of globalization influence trust in the three international organizations. The state of the economy only has a significant effect on trust in the WTO. Moreover, respondents' attitudes towards globalization have a bearing on trust in all three international organizations. Survey items on individual knowledge and perceptions of the WTO allow us to test additional hypotheses that apply to this institution alone. We find that familiarity with the WTO fosters trust. Finally, beliefs that the EU is well-represented in the WTO, that the WTO has a good reputation and that it is a democratic and necessary institution increases respondents' propensity to trust the WTO.

Keywords: Institutional trust, International economic organizations, Globalization, International Monetary Fund, World Bank, World Trade Organization

JEL codes: F13, F15, F33, F53, 019

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1 Introduction

Over the last six decades, the International Monetary Fund (IMF), the World Bank, and the World Trade Organization (WTO, until 1994 GATT) have expanded their mandates, revised their objectives, and achieved almost global coverage in terms of membership. At the same time, these three international economic organizations (IEOs)¹ are highly contested. Nobel prize laureate Joseph Stiglitz notes that “International bureaucrats – the faceless symbols of the world economic order – are under attack everywhere. (...) Virtually every major meeting of the International Monetary Fund, the World Bank and the World Trade Organization is now the scene of conflict and turmoil.” (2002, p. 3).

The criticism levelled at the three IEOs has different sources. First, they are criticized for their contribution to the acceleration of globalization.² Riots and violent demonstrations at the G8 summit in Seattle in November 1999 (also known as “The Battle of Seattle”) bear testimony to the fact that the ongoing international integration of markets creates concerns about increasing inequality and irreversible environmental damage. Given that the Bank and the Fund urged countries worldwide to open up their markets as a precondition for financial assistance, these two organizations are blamed for negative side effects of globalization.³ The WTO’s explicit connection to globalization is its official function to supervise and liberalize international trade by providing a framework for negotiating and formalizing trade agreements and resolving trade disputes.⁴

Second, the IMF and the World Bank are reproached with not having fulfilled their missions. Today’s main objective of the Bank is the implementation of long-run development programs, whereas the Fund’s responsibility is short-run macroeconomic stability.⁵ Their failure to alleviate worldwide poverty and to create stability may have different reasons. First of all, it may be due to an unfortunate choice of policies given a lack of knowledge about the countries involved. The finding that IMF policies do not promote growth (Vreeland, 2003) is explained by Stiglitz with the imposition of unsuitable policies

¹ The Bank and the Fund are also often denoted as the international financial institutions (IFIs).

² For a more detailed overview of this literature see Milner (2005).

³ The preconditions for financial assistance are related to the term “Washington Consensus” first used by John Williamson (1989) to summarize commonly shared themes of policy advice (fiscal discipline, trade liberalization, deregulation, privatization) by Washington-based institutions.

⁴ There are empirical studies, which, however, do not find a significant effect of GATT/WTO membership (Rose 2004) or World Bank/IMF policies (Boockmann and Dreher 2003) on measures of trade policy or liberalization, even though it “seems safe to say that most economists think that the GATT has been at least moderately successful in liberalizing trade.” (Rose 2004, p. 211).

⁵ Note that there is often overlap in this division of objectives (see Marchesi and Sartori, 2011).

on the LDCs by IMF officials, while Easterly (2001) critically reviews how the Bank has managed development and globalization with its allegedly simple panaceas.

Another explanation for the failure of the two IFIs is that they were not designed exclusively or primarily to help poor or unstable countries but rather to covertly achieve ends that benefit rich countries. These allegations are based on the fact that influence at the Bank and the Fund depends on economic size; the US, the UK, Japan, Germany and France hold 40% of the votes, while the remainder is divided among about 180 countries. In particular, Bhagwati (2004) and Stiglitz (2002) have criticized the IMF for urging developing countries to open their capital markets to the world given that there is little, if any, evidence in favor of a growth-promoting effect of this policy prescription. What has been observed instead according to these critics is that the consequences of this “market fundamentalist” ideology have adversely affected poor countries, while private investors in rich countries have prospered. Moreover, recent empirical studies confirm the suspicion that the IMF and the World Bank use financial assistance packages to provide money to governments who are temporarily endowed with a seat in the UN Security council (Dreher, Sturm, and Vreeland 2009a,b) in order for them to vote in favor of the interests of the IFIs’ major shareholders.

The more traditional research on explanations for the failure of the IFIs argues from a principal-agent perspective and emphasizes internal organization problems. Vaubel (1986; 1996) as one of the main proponents of this approach provides evidence that concerns about career prospects and the maximization of budgets motivate actors within these institutions to make loans and provide aid to countries in need and to focus less on monitoring the outcomes. A final point of criticism, which applies to international organizations in general, is the lack of democratic control.⁶

The absence of democratic accountability is our main motivation to investigate citizens’ trust in the three IEOs since this in turn implies that a lack of trust undermines the legitimacy of these institutions (Kaltenthaler et al. 2010, Rohrschneider 2002).

Based on the sources of income of the two IFIs, there is a second motivation to analyze the public’s trust in these two organizations in particular. First, the financial contribution that each country makes to the Bank and the Fund depends on its economic size

⁶ Frey and Stutzer (2006a,b) and Tullock (2006) put forward an innovative proposal to reduce this democratic deficit by means of a lottery selection of a large group of trustees who can vote on the ground rules of IOs as well as certain agenda items.

similar to the way in which the vote shares are determined.⁷ As a result, the two IFIs are mainly financed by taxpayers in the EU-15 countries.⁸ If these taxpayers, however, do not trust these organizations, the legitimacy of this financing arrangement is undermined. Second, with regard to the IMF one should bear in mind its vulnerability to the willingness of borrowing countries to accept the Fund's loans. To give an example, in the wake of the Asian crisis, the IMF stepped up its conditionality requirements leading to warnings by IMF insiders and sympathetic outsiders to reduce conditionality (Fang and Stone 2011). By early 2008 the IMF was left virtually without borrowers leading to a ten percent staff reduction. To summarize, it is in the interest of the Bank and the Fund to maintain the public's trust to ensure and legitimize a steady flow of income to finance their operations.

The final reason why we study the public's trust in the three IEOs is based on the fact that one of the main functions of international organizations is the provision of information (Krueger 1998; Milner 2005). In this context, trust is indispensable to successfully persuade national policymakers and voters.

Our objective is to investigate what shapes individual (performance-based) trust in the IMF, the World Bank, and the WTO with regard to their ability to get the effects of globalization under control. Notably, the determinants of trust in the three IEOs have so far not been analyzed in the literature, even though there are a few related studies. Edwards (2009) is a first important contribution based on data from the 2004 Pew Global Attitudes Survey in 44 developing countries. His main finding is that people's evaluation of the economy has the largest explanatory power for the joint support of the three IEOs, while individual characteristics such as gender and education level also have a statistically significant influence.

On the other hand, there are contributions that examine the determinants of trust in other international organizations. Torgler (2008) is the first study that extends the vast literature on social capital to a sub-branch of international trust, i.e. trust in one particular international organization. He investigates the determinants of trust in the UN across 38 countries based on the third wave of the World Values Survey (1995/96) and finds that trust in the UN is affected by age, political interest, marital and employment status, relative

⁷ Each member country is granted a quota that determines its influence. From this quota (dependent on economic size), a complicated calculation determines the country's voting power: based on a fixed part of 250 votes and a part that is proportional to its quota.

⁸ According to Driscoll (1996) the IMF can be viewed as a credit union almost entirely financed by member countries' quota subscriptions, whereas the World Bank's resources are mainly borrowed from the international bond market. Member countries' contributions only make up about 10% of the Bank's total budget.

income, religiosity, social and political trust, geographic identification, corruption, and globalization.

Moreover, there are studies that analyze the determinants of individual or aggregate trust in the European Central Bank. In this case, it is quite clear from the outset what the objective and the resulting evaluation criterion for the ECB is, namely control over inflation. Fischer and Hahn (2008) use aggregated data for 12 EU countries over a time period of 6 years and find that macroeconomic variables (inflation, GDP, unemployment benefits) influence trust in the ECB. Roth et al. (2011) provide evidence that public debt, inflation, and unemployment have an influence on trust in the ECB only in crisis periods, while Ehrmann et al. (2010) conclude that in crisis and non-crisis periods trust in the ECB are in the same way affected by macroeconomic performance. Finally, Kalthenthaler et al. (2010) find that on an individual level the perceived democratic deficit and a lack of knowledge are the best predictors of distrust in the ECB. The influence of familiarity with the ECB on trust is confirmed by Ehrmann et al. (2010).

This study extends the above literature in various ways. First, the focus is on the World Bank, the IMF, and the WTO which makes it is easier to identify the purpose and goals of these institutions than for a vast institution such as the UN with many sub-organizations.⁹ Second, compared to Edwards (2009), our data allows us to separately investigate trust in the three organizations, whereas in his case people were asked about their joint opinion on the three IEOs.¹⁰ Third, unlike Edwards (2009) and Torgler (2008) our data focuses on respondents from the EU-15 countries. This can be viewed as a disadvantage due to less cross-country heterogeneity or as an advantage as people in the EU may be more objective regarding the IMF's and the World Bank's activities which are concentrated in non-EU countries. In any case, it is an aspect in which our study differs from the existing investigations. Fourth, our study contains additional survey items that allow us to test novel hypotheses on the determinants of institutional trust.

The estimation results based on data from a Eurobarometer survey in 2001 across the EU-15 countries suggest that individual characteristics (gender, international background, formal education level, personal income, ideological preferences, interest in politics, and exposure to media) as well as the extent of globalization significantly affect trust in the

⁹ In particular, Torgler (2008, p. 89) argues that "The complex nature of the UN requires a multidimensional approach to fully understand the level of trust in such an international institution."

¹⁰ More specifically, people were asked "Is the influence of international organizations like the IMF, World Bank and World Trade Organization very good, somewhat good, somewhat bad or very bad in (survey country)?"

IEOs. Moreover, people seem to project negative attitudes towards globalization to their level of trust in the three IEOs. Finally, the inclusion of additional survey items on individual perceptions of the WTO bring to light additional insights: trust in the WTO is shaped by beliefs that the EU is well-represented in the WTO, that the WTO has a good reputation, and that the WTO is a democratic and necessary institution. Finally, familiarity with the WTO increases respondents' propensity to trust this international organization.

The remainder of this paper is structured as follows: Section 2 puts forward a number of hypotheses on factors that shape people's trust in the three IEOs. Section 3 describes the data and the empirical strategy. Section 4 presents the estimation results and Section 5 concludes the analysis.

2 Theoretical considerations

2.1 Socio-economic/-demographic characteristics

In a first step, this paper investigates how socio-economic and socio-demographic characteristics of respondents affect their trust in the three IEOs. Existing studies find that gender, age, income, and education affect generalized interpersonal trust. More specifically, Alesina and La Ferrara (2002) find that men, older people, high-income earners and highly educated people express more trust towards other individuals, while marital status appears to be irrelevant. Similar results are presented by Glaeser et al. (2000).

However, while Alesina and La Ferrara argue that income and education increase trust through a professional success channel, Glaeser et al. emphasize that educated individuals are more often surrounded by other educated and trustworthy. Furthermore, Alesina and La Ferrara (2002) explain the finding that women are less likely to trust other people by pointing to the fact that women were historically discriminated against. In our case, where we investigate trust in the three IEOs, we put forward an additional channel for gender differences in trust propensities. In particular, we emphasize the substantial literature which argues that women are harmed by austerity measures backed by the IMF and World Bank (Emeagwali 1995; Sparr 1994).

A study on international trust (Brewer et al. 2004) provides evidence for a negative influence of age and income on international trust¹¹, while education has a positive influence on international trust. These results are at odds with the other two aforementioned studies on social trust, which may be due to the fact that international trust is differently determined by individual characteristics and that only respondents from the US were included in this study.

Torgler (2008) and Ehrmann et al. (2010) are most similar to our study as they investigate determinants of trust in an international organization based on micro-level data. Therefore, we expect that our results will be most strongly in line with their findings. Torgler finds that there is essentially an inversely U-shaped relationship between age and trust (he uses three age groups: 30-49, 50-64, 65+ and below 30 as the base level) in the UN, while gender, ideology and formal education are irrelevant. In contrast, political interest, income, employment and marital status have an influence on trust in the UN.¹² In contrast, Ehrmann et al. (2010) who do not use the full set of dummies and do not control for relative income find that trust in the ECB is higher for men, married people and highly educated people as well as those with a centre-right political orientation, while age and employment status are insignificant. Hence, it appears that individual determinants of trust are organization-specific, which makes a prediction regarding the results for the three IEOs rather difficult.

Our investigation includes additional individual characteristics, such as the internationality of respondents captured by a foreign background and the number of foreign languages well spoken. In a similar vein, Torgler uses a measure of geographic identification to test the hypothesis that people who are less connected to the international community may be skeptical about the purpose of international organizations. Furthermore, while Torgler finds ideological preferences to be irrelevant for trust in the UN, there is reason to believe that ideological orientation is more likely to matter for trust in the three IEOs than the UN, as especially the Bank and the Fund are associated with neoliberal policies (Williamson, 1989). Therefore, left-wing voters should be less inclined to express trust in the three IEOs.

Moreover, in order to measure political interest, we include survey items on how frequently individuals follow the news on TV, in the newspaper, and the radio, what kind of

¹¹ International trust is measured with answers to the question *“Generally speaking, would you say that the United States can trust other nations, or that the United States can’t be too careful in dealing with other nations? Would you say that most of the time other nations try to be helpful to the United States, or that they are just looking out for themselves?”*.

¹²Torgler (2008) also provides evidence for a number of additional individual characteristics, which we cannot include in our analysis as these items were not included in the Eurobarometer survey 55.1. This includes risk aversion, church attendance, and geographic identification.

domains of news they are most interested in (politics, social issues, EU, economy, sports, environment, international affairs, and culture) and how frequently they are involved in political discussions and try to convince friends of a certain opinion. We assume that the latter are even better measures for political interest as they involve an active role for the respondent. Finally, we include dummies in order to capture whether respondents live in a rural area/village, a small-/medium sized town or a large town. Our conjecture is that people in large cities have a more international mindset, are more sympathetic to international political endeavors, and may therefore have a higher propensity to trust the three IEOs. To summarize, our first hypothesis is stated as follows:

H1: Trust in the three IEOs is affected by respondents' socio-economic/-demographic characteristics.

2.2 Attitudes towards globalization

This paper in addition puts forward the hypothesis that people project negative opinions about globalization on their extent of trust in the three IEOs since these organizations have been strongly involved in the acceleration of globalization (see introduction). In particular, we make use of ten survey items that measure attitudes towards globalization. These will be discussed in further detail in the next chapter (for a summary see table 5 in the appendix). Hypothesis 2 states:

H2: Trust in the three IEOs is influenced by respondents' attitudes towards globalization.

This second hypothesis has so far not been tested in any existing study.

2.3 Specific perceptions about IEOs

A more direct way to test how individual attitudes shape trust in the three IEOs is to rely on survey items that capture people's views of international organizations. In the Eurobarometer survey 55.1 such items are included, however, only with respect to the WTO. People were asked about the extent to which they know or have heard of the WTO and afterwards they were confronted with nine statements on the WTO; respondents were asked whether they tend to agree or disagree with each of them. We hypothesize that knowledge about an international organization fosters trust and that negative perceptions regarding the

workings of an IEO and the way it handles its everyday tasks translate into a lower level of institutional trust. When people were asked whether they have heard of the WTO before the interview, they could answer on a scale from 1 to 5. This allows us to test more thoroughly Ehrmann et al.'s (2010) and Kaltenthaler et al.'s (2010) conjecture that knowledge of an international organization fosters trust¹³, while extending it to the three IEOs. Hypothesis 3 can be summarized as:

H3: Trust in the WTO is influenced by knowledge of the WTO and positive attitudes towards this international organization.

Among the three IEOs analyzed in this paper, the WTO is the “youngest” one, as it evolved from the General Agreement on Tariffs and Trade (GATT) in 1994. Moreover, due to “its small size and uncertain place as an economic institution” (Rose 2004, p.211), it is particularly interesting to what extent people say that they do not trust this institution simply because they do not know much about it.¹⁴ Moreover, the WTO has the most narrow and most easily definable task of the three IEOs (facilitation of trade liberalization), which should make it easier for the public to judge whether they agree or disagree with certain statements regarding the WTO's performance.

2.4 Macroeconomic variables

There is mounting evidence that institutional trust is affected by country-level variables. Stevenson and Wolfers (2011) illustrate in a recent contribution that both within the US as well as on a cross-country level people's trust in public institutions such as the government, the private sector, the judiciary, and the press are significantly determined by the business cycle, which is in their case measured by the unemployment rate.

Roth et al. (2011) and Ehrmann et al. (2010) focus on the ECB and find that various macroeconomic variables influence trust in this institution. Torgler also provides evidence on the economic performance – trust in international institutions nexus. He explains his findings for trust in the UN as follows (2008, p.88): “People who are cynical about domestic politics are also more cynical about international institutions. Citizens who believe that their own government does not fulfill their expectations may reason that international bodies may

¹³ In both studies, due to data availability only a 0-1 scaling of knowledge about the ECB was employed.

¹⁴ Vaubel et al. (2007) provide data on staff size across 27 international organizations and report that in 2001 staff size of the WTO only amounted to 368 compared to 6,800 and 2,976 for the Bank and the Fund.

be even less able to satisfy their preferences.” We extend this reasoning to the three IEOs with the following hypothesis:

H4: Trust in the three IEOs is affected by the state of the economy (low unemployment and inflation) in the country that respondents live in.

One of the macro-level variables that Torgler (2008) includes is the KOF-globalization index (see Dreher, 2006) which is a multi-dimensional globalization measure based on 23 variables from the economic, political, and social sphere. He provides evidence that people who live in more politically, economically, and socially integrated countries are more likely to trust international organizations such as the UN. Torgler (2008, p. 69) describes the underlying theory as follows: “Countries’ capacity to act globally by creating international networks guaranteeing information, goods and capital flows increase the demand for international stability and the avoidance of a dangerous international environment. A safe environment guarantees that the international network is maintained. Such conditions may foster trust in international organizations as the UN.” An alternative explanation, which we put forward, states that people who live in a more globalized country are more exposed to foreign cultures, products, and people. Therefore, they may have less nationalistic views and may be more willing to rely on international organizations. To summarize:

H5: Trust in the three IEOs is influenced by the extent to which the country that respondents live in is economically, politically, and socially integrated with the rest of the world.

These hypotheses form the basis for the empirical analysis presented in section 4. We seek to investigate how people’s identity and background (H1), the economic environment that people live in (H4 and H5), and specific perceptions regarding the WTO or globalization (H2 and H3) influence trust in international organizations. The next section first describes the variables and the survey items in more detail and afterwards explains the empirical strategy.

3 Data and model specification

3.1 Data description

The dataset contains data for 9,014 respondents from the EU-15 countries collected in a survey that was conducted in April/May 2001. It is denoted as no. 55.1 of the Eurobarometer (EB) Survey Series. The sample of respondents for each Eurobarometer Survey is drawn based on a multi-stage, random probability procedure in order to give a representative picture of the population aged fifteen years and over in the EU member states. The interviews are organized bi-annually (in spring and in autumn) by research firms on behalf of the European Commission and are conducted in a face-to-face setting in people's homes and in the respective national language.

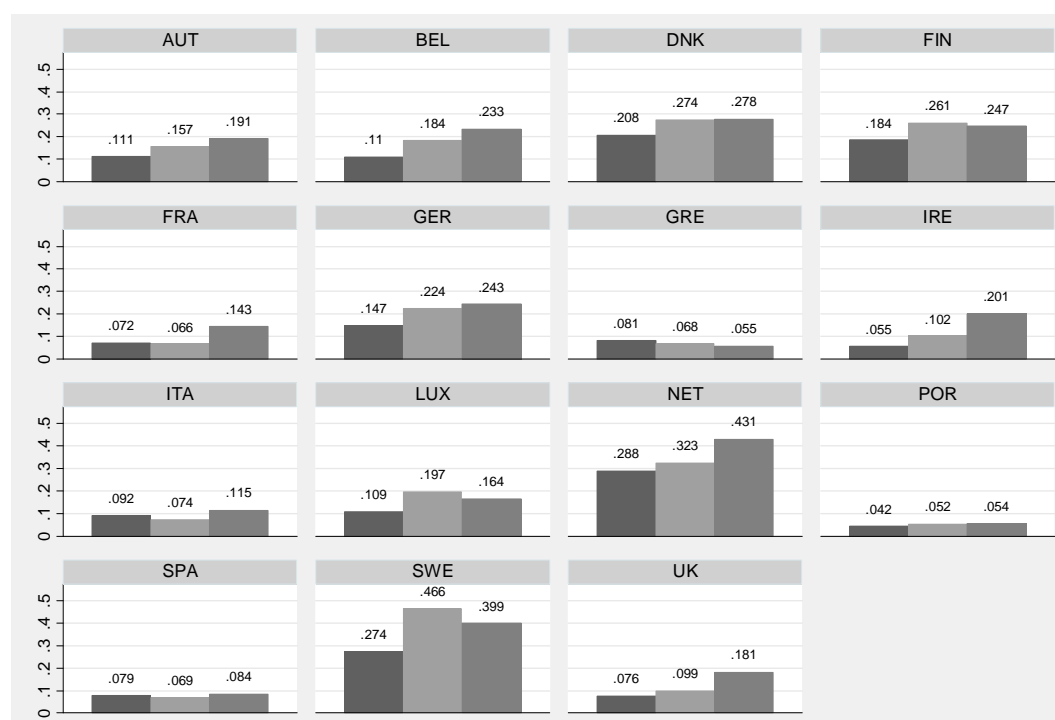
The dependent variable that measures trust in the three IEOs is closely related to the IEO's performance regarding the task of managing the effects of globalization. More specifically, the questionnaire item is worded as follows: *“Globalization is a general opening up of all economies, which leads to the creation of a truly world-wide market. From the following list, who do you trust most to get the effects of globalization under control?”*¹⁵ In addition to the three IEOs, the list of variables from which respondents can select multiple answers includes the national government, the EU, NGOs, ecological movements, trade unions, consumer rights associations, multinational companies, churches, the UN, the US government, citizens themselves, others, and noone.

Figure 1 displays what share of the respondents in each of the EU-15 countries mentioned the three IEOs as one of the institutions that are most trusted to get the effects of globalization under control. The first fact that is striking about these averages is that only about 5% of respondents in Portugal express trust in any of the three IEOs. In other countries, the values are similarly low with about 7% to 8% in Spain, in Italy 7% to 12%, in Greece 6% to 8%, and in France 7% to 14%. The highest values are recorded in Sweden where 27.4%, 46.6%, and 29.9% trust the IMF, the World Bank, and the WTO, respectively. Other countries that are to be found at the upper end of the cross-country distribution of trust in the three IEOs are the Netherlands, Denmark, Finland, and Germany. Hence, we can state that on average Scandinavian respondents express more trust in the three IEOs than Southern European citizens.

¹⁵ Note that due to data availability as regards our dependent variables, our study is based on data from one Eurobarometer survey only.

If we aggregate the responses of all respondents across countries, we find that European citizens do not seem to trust the three IEOs very much. In fact, as the summary statistics in table 6 in the appendix reveal, only 14.6%, 20%, and 22.4% of the respondents trust the IMF, the World Bank, and the WTO, respectively. To put these aggregated levels of institutional trust into perspective, it is helpful to review the percentages of respondents that express trust in national and international institutions in other studies.¹⁶

Fig. 1. Percentages of respondents that trust the three IEOs across the EU-15 countries, 2001



Source: Eurobarometer survey 55.1 (April/May 2001)

As regards European citizens' trust in the ECB, Kalthenthaler et al. (2010) report that between 38% (France) and 70% (Netherlands) of respondents expressed trust in the ECB in a Eurobarometer survey in 2006. Ehrmann et al. (2010) report a decline in trust in the ECB from about 50% of the respondents in the pre-2008 period down to about 35% in 2009, while Roth et al. (2011) add one additional year of data showing that after a temporary increase trust in the ECB decreased again due to the ongoing debt crisis. With respect to trust in national institutions, Stevenson and Wolfers (2011) observe that about 30% to 50% of respondents express quite a lot of confidence¹⁷ in banks, the Supreme Court, newspapers, congress, and big business until the mid-2000s. Hudson (2006) reports that in 2001 EU

¹⁶ Unfortunately, Torgler (2008) does not provide summary statistics.

citizens' trust in the UN amounts to 55.1%, while 45.2%, 44.1%, and 69.1% trust the government, unions, and the police. To conclude, trust in the three IEOs is comparatively much lower than trust in national institutions as well as other international institutions such as the UN and the ECB.

Another notable fact about figure 1 is that in some countries the extent of trust across the three IEOs is very similar (Portugal, Greece, Spain, and Italy), while in other countries there is a divergence across the three institutions (Sweden and Netherlands). Interestingly, in the Netherlands the World Trade Organization is the most trusted institution, while in Sweden it is the World Bank. These cross-country differences cannot be explained without further analysis. However, they underline the necessity to control for country-level variables or to include country fixed effects. Therefore, we include in our estimations the KOF-globalization index as well as unemployment and inflation rates from the OECD Key Economic Indicators and the OECD Economic Outlook, respectively.

Based on the considerations in section 2.1 we also include a number of control variables at the individual level in the regressions: gender, age, ideological preferences, relative income, marital status, education level, employment status, foreign background (i.e. mother tongue is different from native language), number of foreign languages in which the respondent is proficient, the frequency with which the respondent takes part in political discussions and tries to convince friends of his/her opinion, how frequently the respondent follows the news from different media sources (TV, newspaper or radio), what kind of news he/she is most interested in (politics, social issues, EU, economy, sports, environment, international affairs or culture), and his/her area of residence (rural area/village, small-/medium-sized town or large town).

Finally, we include twenty items that capture the respondent's opinions about globalization, one item that measures how much he/she knows about the WTO, and nine items on his/her views about the WTO (see table 5 for details). Table 6 in the appendix provides summary statistics for all of the micro- and macro-level variables that are included in the regressions.

¹⁷ Their dependent variable is scaled with "very little" to "some", "a great deal", and "quite a lot".

3.2 Empirical strategy

Since the dependent variables (trust in IMF, World Bank or WTO) assume the values 0 or 1, the estimations employ a binary probit estimator. The regression model can be summarized as follows:

$$Trust_{ic} = \alpha + \beta Individual_{ic} + \delta Opinions_{ic} + \varphi Country_c + \varepsilon_{ic}, \quad (1)$$

where the vector $Individual_{ic}$ includes the socio-economic/-demographic characteristics of respondents and the vector $Country_c$ includes the growth rate of the consumer price index (OECD Key Economic Indicators), unemployment rates (OECD Economic Outlook), and the KOF globalization index (based on data from the political, social, and economic sphere) or a set of country dummies instead. The subscript i refers to an individual respondent and c is the country index.

In the case where we include macro-level variables, we are, of course, not able to include country dummies and have instead clustered the standard errors at the country level. Finally, $Opinions_{ic}$ includes thirty variables that capture respondents' views about globalization or the WTO in specific as well as the extent of knowledge of the WTO. Section 4.1 reports the estimation results for the baseline estimations, whereas in section 4.2 we display the results for a robustness check that involves an alternative scaling of the dependent variables.

4 Empirical results

4.1 Baseline estimations

In the first set of estimations summarized in table 1, we investigate the validity of hypothesis 1, i.e. we are interested in individuals' characteristics that influence trust in the three IEOs. In order to use the maximum number of observations in models 1 to 3, which differ in terms of the dependent variable, we only include those variables with no missing observations. In a second step, we add 15 individual-level variables in models 4 to 6, which leaves us with 8,458 instead of 9,014 observations. Since the magnitude of coefficients in probit estimations cannot be interpreted, we have included the marginal effects in italics just below the z-statistics for all of the controls that are included in the estimations.

The parsimonious specifications in models 1 to 3 provide evidence that men express a significantly higher propensity to trust the three IEOs than women. More specifically, the marginal effect at mean values shows that the probability to trust the IMF, the World Bank, and the WTO is 2.7%, 3.3%, and 1.6% higher for men than for women. With regard to age we find evidence for an inversely U-shaped relationship for trust in the IMF, while neither the linear nor the quadratic age term are significantly related to trust in the other two IEOs.

Respondents with a foreign origin have a lower likelihood to trust the three IEOs by 3.4% to 7.9%, while speaking an additional foreign language increases the likelihood to trust the three IEOs (2.4% to 2.9% more per language). These two findings can be rationalized by asserting that foreigners are generally less able to trust others since they may face discrimination in their everyday life, while speaking multiple languages might be associated with an international mindset and a better understanding of international political and economic endeavors.

Respondents' marital and employment status are mostly irrelevant for the likelihood of trusting the three IEOs¹⁸, while on the other hand, individuals who were older than 19 years when they finished their education have a 4.5% to 6.5% higher likelihood of trusting the three IEOs than individuals who finished their education at less than 16 years of age.¹⁹ This effect goes beyond the income effect which reveals that being in a higher income quartile leads to 2.4% to 2.7% higher likelihood of trust in the three IEOs. Moreover, we find that right-wing voters have a 1.8% to 3.8% higher likelihood of trusting the three organizations compared to left-wing voters. In summary, individual characteristics have both a statistically as well as an economically significant effect on the willingness to trust the IMF, the World Bank, and the WTO. Therefore, we cannot reject hypothesis 1 based on the estimation results for models 1 to 3.

¹⁸ Surprisingly, the "married" dummy has a significantly negative coefficient in models 2 and 5. This would imply that married people are less likely to trust the three IEOs than single individuals. This is admittedly a somewhat puzzling result. However, with more complete specifications in tables 2 to 4, this effect appears less frequently and in table 4 it is even significantly positive for one model. Note that Torgler (2008) presents an even more significant negative coefficient for the "married" dummy, which he only mentions briefly.

¹⁹ The dummy "age till education: 16 to 19 years" is only significant in three out of six models. This implies that the final years of high school or possibly the first year at the university have less of an influence on trust in the three IEOs than an academic background.

Table 1 Individual determinants of trust in the IMF, World Bank, and WTO, probit estimations

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Dependent variable	Trust in IMF	Trust in World Bank	Trust in WTO	Trust in IMF	Trust in World Bank	Trust in WTO
<i>Demographic factors</i>						
Male	0.131*** (3.625) 0.027	0.129*** (3.841) 0.033	0.057* (1.737) 0.016	0.050 (1.204) 0.010	0.058 (1.491) 0.015	-0.010 (-0.253) -0.003
Age	0.010 (1.438) 0.002	0.024*** (3.569) 0.006	-0.002 (-0.366) -0.001	-0.003 (-0.430) -0.001	0.017** (2.466) 0.004	-0.011* (-1.661) -0.003
Age^2	-0.000 (-1.288) -0.000	-0.000*** (-3.221) -0.000	0.000 (0.203) 0.000	0.000 (0.062) 0.000	-0.000** (-2.407) -0.000	0.000 (1.210) 0.000
<i>International background</i>						
Foreigner	-0.178** (-1.990) -0.034	-0.205** (-2.449) -0.048	-0.318*** (-3.807) -0.079	-0.175* (-1.884) -0.032	-0.178** (-2.057) -0.042	-0.337*** (-3.892) -0.083
Foreign languages	0.115*** (5.763) 0.024	0.113*** (5.884) 0.029	0.090*** (4.797) 0.025	0.067*** (3.156) 0.013	0.085*** (4.165) 0.021	0.051*** (2.588) 0.014
<i>Marital status</i>						
Married	-0.038 (-0.733) -0.008	-0.108** (-2.218) -0.028	0.026 (0.554) 0.007	-0.065 (-1.219) -0.013	-0.134*** (-2.648) -0.035	0.013 (0.262) 0.004
Divorced	-0.025 (-0.317) -0.005	-0.012 (-0.162) -0.003	-0.015 (-0.207) -0.004	-0.023 (-0.274) -0.005	-0.020 (-0.260) -0.005	-0.050 (-0.644) -0.014
Separated	-0.098 (-0.604) -0.019	0.125 (0.937) 0.034	-0.006 (-0.044) -0.002	-0.130 (-0.750) -0.024	0.112 (0.806) 0.030	-0.021 (-0.150) -0.006
Widowed	-0.150 (-1.616) -0.029	-0.111 (-1.352) -0.027	-0.083 (-1.037) -0.023	-0.159* (-1.647) -0.030	-0.124 (-1.446) -0.030	-0.060 (-0.712) -0.016
<i>Employment status</i>						
Unemployed	0.019 (0.240) 0.004	-0.014 (-0.186) -0.004	-0.024 (-0.329) -0.007	0.030 (0.351) 0.006	-0.005 (-0.062) -0.001	-0.012 (-0.164) -0.003
School	0.073 (0.931) 0.015	0.084 (1.135) 0.022	0.064 (0.918) 0.018	0.031 (0.384) 0.006	0.054 (0.711) 0.014	0.036 (0.497) 0.010
Retired	0.072 (1.085) 0.015	0.003 (0.049) 0.001	-0.029 (-0.483) -0.008	0.086 (1.239) 0.018	0.008 (0.118) 0.002	-0.054 (-0.862) -0.015
Home	-0.036 (-0.500) -0.007	0.043 (0.661) 0.011	-0.005 (-0.085) -0.001	-0.013 (-0.176) -0.003	0.072 (1.063) 0.019	0.021 (0.328) 0.006
Self-employed	0.108 (1.643) 0.023	0.014 (0.222) 0.004	0.026 (0.419) 0.007	0.109 (1.616) 0.023	0.020 (0.305) 0.005	0.003 (0.049) 0.001
<i>Formal education till age</i>						
16 to 19 yrs	0.053 (1.002) 0.011	0.084* (1.759) 0.022	0.125*** (2.703) 0.035	0.037 (0.678) 0.008	0.054 (1.083) 0.014	0.092* (1.911) 0.026
>= 19 yrs	0.249*** (4.431) 0.053	0.174*** (3.328) 0.045	0.225*** (4.403) 0.065	0.173*** (2.930) 0.036	0.104* (1.887) 0.027	0.147*** (2.730) 0.042
<i>Income quartiles</i>						
Relative income	0.132*** (6.962) 0.027	0.095*** (5.353) 0.024	0.084*** (4.993) 0.024	0.113*** (5.715) 0.023	0.082*** (4.464) 0.021	0.063*** (3.567) 0.018
<i>Political attitudes and interest</i>						
Ideological preferences	0.044* (1.927) 0.009	0.057*** (2.666) 0.015	0.066*** (3.199) 0.019	0.061** (2.545) 0.012	0.060*** (2.704) 0.015	0.079*** (3.648) 0.022

Political discussion - frequency				0.098*** (2.822) 0.020	0.084*** (2.611) 0.021	0.060* (1.931) 0.017
Political discussion - convince friends				0.006 (0.284) 0.001	-0.014 (-0.731) -0.004	0.048** (2.533) 0.013
<i>Use of news sources</i>						
Television use - news				0.016 (0.630) 0.003	-0.022 (-0.993) -0.006	0.000 (0.007) 0.000
Daily newspapers use - news				0.035** (2.111) 0.007	0.036** (2.327) 0.009	0.012 (0.826) 0.003
Radio use - news				0.023 (1.611) 0.005	-0.013 (-0.998) -0.003	0.002 (0.187) 0.001
<i>News interests</i>						
Attention to news: politics				0.076* (1.927) 0.015	0.024 (0.644) 0.006	0.075** (2.119) 0.021
Attention to news: social issues				0.043 (1.090) 0.009	0.020 (0.557) 0.005	0.020 (0.562) 0.006
Attention to news: European Union				0.061* (1.734) 0.012	0.078** (2.359) 0.020	0.091*** (2.839) 0.025
Attention to news: economy				0.082** (2.423) 0.017	0.055* (1.794) 0.014	0.032 (1.059) 0.009
Attention to news: sport				-0.006 (-0.261) -0.001	0.031 (1.334) 0.008	-0.001 (-0.052) -0.000
Attention to news: environment				-0.039 (-1.115) -0.008	0.033 (1.018) 0.008	0.007 (0.218) 0.002
Attention to news: International affairs				0.120*** (3.387) 0.024	0.040 (1.198) 0.010	0.039 (1.220) 0.011
Attention to news: culture				-0.018 (-0.559) -0.004	-0.030 (-1.042) -0.008	0.026 (0.919) 0.007
<i>Area of residence</i>						
Rural area or village				-0.032 (-0.669) -0.006	0.023 (0.506) 0.006	0.057 (1.306) 0.016
Small-/medium-sized town				-0.016 (-0.372) -0.003	-0.021 (-0.494) -0.005	0.005 (0.135) 0.002
Pseudo R^2	0.091	0.112	0.090	0.110	0.120	0.103
Observations	9014	9014	9014	8458	8458	8458

^a Marginal effects at mean values of explanatory variables are in italics, z-statistics are in parentheses. ^b Hypotheses tests are based on robust standard errors. ^c All estimations include country fixed effects. ^d Significance at 10% (*), 5% (**), 1% (***). ^e Base levels for dummy variables: female, single, employed, education until age < 15 years, native (i.e. national language is mother tongue), living in a large town. Ideological preferences defined as -1 (left-wing), 0 (center), +1 (right-wing); relative income scaled as 1 (lowest income quartile) to 4 (highest quartile).

Models 4 to 6 allow us to draw some additional conclusions with regard to characteristics of individuals in the EU-15 countries that are associated with trust in the three IEOs. To begin with, the estimations in the last three columns in table 1 provide evidence that more frequent involvement in political discussions, which can be viewed as an expression of political interest, is positively associated with trust in the three IEOs, while the willingness to convince friends of one's own political opinions is only significant in model 5 with trust in

the World Bank as the dependent variable. Moreover, it appears that individuals who read the newspaper are more likely to trust the IMF and the World Bank. This can be explained by pointing out that people who read the newspaper on a regular basis have a better understanding of the IFIs' objectives and the policies that they pursue to achieve them.

Moreover, models 4 to 6 provide evidence that people who are interested in news from the domains of politics, the EU, the economy, and international affairs are more likely to trust the three IEOs even though the pattern of significance differs between the three models. Finally, it appears that the area of residence of the respondent, i.e. a rural versus an urban environment, is irrelevant to the propensity to trust the three IEOs. It should also be noted that the gender dummy is insignificant in models 4 to 6. This may be due to the fact that gender is multicollinear with news interests, political interests, and ideological orientations.

Table 2 extends the analysis in table 1 by including a number of variables that capture respondents' views about globalization and the WTO. By doing so, we test the validity of hypotheses 2 and 3 concerning the question whether particular opinions of the three IEOs and knowledge about the WTO influences the likelihood of trust. Model 7 to 9 include ten variables on individuals' views about globalization, models 10 to 12 includes ten additional opinions on globalization, while models 13 and 14 focus solely on the determinants of trust in the WTO and use one item on the level of knowledge about the WTO and nine items on opinions of the WTO.

First, it should be noted that the signs and the levels of significance for the individual controls in the upper part of table 2 are very similar to table 1. With regard to respondents' attitudes towards globalization, it becomes evident that certain opinions on globalization are obviously projected unto the level of trust expressed for the three IEOs. While the impression that globalization leads to a more peaceful world, more integrated global markets and lower product prices is positively associated with trust in the WTO, the idea that globalization guarantees the EU greater economic presence in the world is positively correlated with trust in the IMF and WTO.

Moreover, people who have the impression that globalization provides more opportunities for selling national products on world markets express more trust in all three IEOs. Finally, those who believe that globalization makes it more difficult to control the quality of food products express a lower likelihood of trust in the IMF, while those who agree that globalization cannot be controlled by national governments are less likely to trust the WTO.

Table 2 Further individual determinants of trust in IMF, World Bank, and WTO, probit estimations

	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Dependent variable	Trust in IMF	Trust in World Bank	Trust in WTO	Trust in IMF	Trust in World Bank	Trust in WTO	Trust in WTO	Trust in WTO
<i>Demographic factors</i>								
Male	0.104** (2.107) 0.025	0.145*** (3.063) 0.041	0.062 (1.343) 0.019	0.142*** (2.738) 0.034	0.176*** (3.550) 0.050	0.054 (1.132) 0.017	-0.075 (-1.286) -0.026	0.047 (0.794) 0.016
Age	0.017* (1.744) 0.004	0.021** (2.252) 0.006	-0.004 (-0.416) -0.001	0.004 (0.400) 0.001	0.018* (1.880) 0.005	-0.011 (-1.249) -0.004	-0.005 (-0.437) -0.002	0.000 (0.041) 0.000
Age^2	-0.000 (-1.224) -0.000	-0.000** (-2.026) -0.000	0.000 (0.425) 0.000	-0.000 (-0.375) -0.000	-0.000 (-1.643) -0.000	0.000 (1.154) 0.000	0.000 (0.456) 0.000	0.000 (0.026) 0.000
<i>International background</i>								
Foreigner	-0.292** (-2.344) -0.063	-0.490*** (-3.912) -0.116	-0.329*** (-2.777) -0.092	-0.203 (-1.594) -0.045	-0.387*** (-3.072) -0.097	-0.333*** (-2.718) -0.094	-0.317** (-2.061) -0.100	-0.314** (-2.040) -0.098
Foreign languages	0.086*** (3.338) 0.021	0.102*** (4.073) 0.029	0.082*** (3.328) 0.025	0.062** (2.216) 0.015	0.089*** (3.292) 0.026	0.068*** (2.634) 0.022	0.086*** (2.908) 0.030	0.063** (2.113) 0.021
<i>Marital status</i>								
Married	-0.064 (-0.910) -0.016	-0.081 (-1.197) -0.023	0.076 (1.179) 0.023	-0.102 (-1.382) -0.025	-0.153** (-2.157) -0.045	-0.064 (-0.956) -0.020	0.036 (0.437) 0.012	0.002 (0.029) 0.001
Divorced	-0.030 (-0.277) -0.007	0.094 (0.904) 0.028	-0.023 (-0.220) -0.007	-0.037 (-0.330) -0.009	-0.005 (-0.048) -0.001	-0.026 (-0.243) -0.008	0.006 (0.047) 0.002	0.020 (0.158) 0.007
Separated	-0.050 (-0.213) -0.012	0.225 (1.109) 0.069	0.263 (1.365) 0.089	-0.279 (-1.090) -0.059	-0.127 (-0.587) -0.035	-0.145 (-0.736) -0.043	0.215 (0.869) 0.078	0.045 (0.174) 0.015
Widowed	-0.219 (-1.642) -0.048	-0.159 (-1.282) -0.042	0.052 (0.443) 0.016	-0.248* (-1.742) -0.054	-0.113 (-0.878) -0.031	0.002 (0.014) 0.001	-0.046 (-0.319) -0.015	-0.064 (-0.422) -0.021
<i>Employment status</i>								
Unemployed	0.212* (1.892) 0.056	-0.094 (-0.820) -0.026	0.160 (1.540) 0.052	0.202* (1.717) 0.054	-0.031 (-0.267) -0.009	0.162 (1.511) 0.054	0.061 (0.477) 0.021	0.130 (0.999) 0.045
School	0.116 (1.113) 0.029	0.030 (0.301) 0.009	0.115 (1.224) 0.037	-0.060 (-0.563) -0.014	-0.027 (-0.257) -0.008	-0.020 (-0.205) -0.006	0.004 (0.034) 0.001	0.068 (0.595) 0.024
Retired	0.057 (0.603) 0.014	0.021 (0.237) 0.006	-0.026 (-0.295) -0.008	0.119 (1.242) 0.030	0.051 (0.557) 0.015	-0.011 (-0.121) -0.003	-0.015 (-0.139) -0.005	-0.128 (-1.157) -0.042
Home	0.125 (1.218) 0.032	0.054 (0.538) 0.015	0.065 (0.702) 0.020	-0.062 (-0.533) -0.015	-0.018 (-0.166) -0.005	-0.039 (-0.378) -0.012	0.027 (0.239) 0.009	-0.009 (-0.080) -0.003
Self-employed	0.047 (0.542) 0.012	-0.009 (-0.107) -0.003	0.036 (0.435) 0.011	0.059 (0.655) 0.015	-0.031 (-0.342) -0.009	0.057 (0.665) 0.018	0.108 (1.057) 0.038	-0.002 (-0.021) -0.001
<i>Formal education till age</i>								
16 to 19 yrs	0.082 (1.142) 0.020	0.057 (0.839) 0.016	0.101 (1.544) 0.032	0.011 (0.147) 0.003	0.077 (1.078) 0.022	0.060 (0.874) 0.019	0.039 (0.482) 0.014	0.016 (0.190) 0.005
>= 19 yrs	0.322*** (4.297) 0.081	0.195*** (2.707) 0.056	0.198*** (2.805) 0.062	0.224*** (2.853) 0.056	0.188** (2.480) 0.055	0.153** (2.086) 0.049	0.151* (1.723) 0.052	0.183** (2.054) 0.062
<i>Income quartiles</i>								
Relative income	0.139*** (5.279) 0.034	0.121*** (4.865) 0.034	0.085*** (3.600) 0.026	0.128*** (4.616) 0.031	0.115*** (4.280) 0.033	0.124*** (4.898) 0.039	0.051* (1.731) 0.018	0.074** (2.478) 0.025
<i>Political attitudes</i>								
Ideological preferences	0.051* (1.701) 0.012	0.055* (1.923) 0.016	0.062** (2.217) 0.019	0.092*** (2.889) 0.022	0.052* (1.693) 0.015	0.073** (2.486) 0.023	0.053 (1.520) 0.018	0.057 (1.586) 0.019

<i>Attitudes towards globalization</i>						
Globalization: less armed conflicts	0.004 (0.086) 0.001	0.039 (0.768) 0.011	0.089* (1.830) 0.028			
Globalization: global market	0.044 (0.727) 0.011	0.081 (1.385) 0.023	0.130** (2.295) 0.039			
Globalization: economic EU presence	0.110* (1.863) 0.026	0.090 (1.559) 0.025	0.111** (2.052) 0.034			
Globalization: product markets	0.165** (2.521) 0.039	0.191*** (3.103) 0.052	0.164*** (2.796) 0.050			
Globalization: product variety	0.029 (0.390) 0.007	0.054 (0.771) 0.015	0.046 (0.690) 0.014			
Globalization: lower product prices	0.060 (1.124) 0.015	-0.003 (-0.058) -0.001	0.110** (2.232) 0.034			
Globalization: business opportunity	0.038 (0.737) 0.009	0.041 (0.819) 0.012	-0.006 (-0.117) -0.002			
Globalization: food control problem	-0.135** (-2.514) -0.034	-0.056 (-1.063) -0.016	-0.029 (-0.566) -0.009			
Globalization: large company power	0.053 (0.856) 0.013	0.032 (0.520) 0.009	0.073 (1.254) 0.022			
Globalization: no government control	-0.009 (-0.167) -0.002	-0.041 (-0.811) -0.012	-0.128*** (-2.649) -0.040			
Globalization: public service privatized				0.034 (0.621) 0.008	0.027 (0.508) 0.008	0.047 (0.943) 0.015
Globalization: job opportunities				0.320*** (4.650) 0.072	0.281*** (4.363) 0.076	0.172*** (2.850) 0.052
Globalization: risk losing jobs				-0.008 (-0.143) -0.002	-0.110** (-2.041) -0.032	-0.108** (-2.088) -0.034
Globalization: developing countries				-0.009 (-0.170) -0.002	-0.018 (-0.339) -0.005	0.063 (1.275) 0.020
Globalization: immigration problem				-0.098* (-1.773) -0.024	-0.070 (-1.315) -0.020	-0.071 (-1.388) -0.022
Globalization: rich and poor gap				-0.089 (-1.486) -0.022	-0.007 (-0.119) -0.002	-0.068 (-1.219) -0.022
Globalization: travel easier				-0.028 (-0.388) -0.007	0.082 (1.154) 0.023	0.133** (1.971) 0.040
Globalization: uniform world				-0.103** (-1.965) -0.025	-0.111** (-2.190) -0.032	-0.141*** (-2.884) -0.044
Globalization: environment problems				0.011 (0.199) 0.003	-0.062 (-1.129) -0.018	-0.009 (-0.164) -0.003
Globalization: quality of life				0.119** (2.271) 0.029	0.108** (2.154) 0.031	0.028 (0.568) 0.009
WTO - known						0.177*** (6.896) 0.061
WTO: guarantees liberali-zation benefit						0.073 (1.127) 0.025
WTO: ensures fair competition rules						0.068 (1.097)

							<i>0.023</i>	
WTO: EU is well represented							0.181** (2.459)	
							<i>0.060</i>	
WTO: good reputation							0.442*** (5.983)	
							<i>0.143</i>	
WTO: referee of trade disputes								-0.026 (-0.373)
								<i>-0.009</i>
WTO: works transparent							0.057 (0.843)	
							<i>0.019</i>	
WTO: is democratic							0.137* (1.909)	
							<i>0.046</i>	
WTO: defending interests vs. USA							0.092 (1.460)	
							<i>0.031</i>	
WTO: is necessary								0.575*** (6.234)
								<i>0.171</i>
Pseudo R ²	0.095	0.133	0.100	0.094	0.135	0.092	0.121	0.089
Observations	4426	4426	4426	4029	4029	4029	2710	2581

^a Marginal effects at mean values of explanatory variables are in italics, z-statistics are in parentheses. ^b Hypotheses tests are based on robust standard errors. ^c All estimations include country fixed effects. ^d Significance at 10% (*), 5% (**), 1% (***). ^e Base levels for dummy variables: female, single, employed, education until age < 15 years, native (i.e. national language is mother tongue), living in a large town. Ideological preferences defined as -1 (left-wing), 0 (center), +1 (right-wing); relative income scaled as 1 (lowest income quartile) to 4 (highest quartile).

In addition, we find that trust in three IEOs is influenced by beliefs that globalization leads to a dull and uniform world (marginal effect of -2.5% to -4.4%) and that globalization increases opportunities on the job market (marginal effect of 5.2% to 7.6%). The fear of losing jobs is associated with less trust in the World Bank and WTO, while the belief that globalization makes travelling easier translates into more trust in the WTO. Finally, those who agree that globalization increases the quality of life are more likely to trust the IMF and the World Bank by 2.9% and 3.3%, respectively. It should also be noted that opinions on the following statements regarding globalization's consequences have no effect on trust in any of the three IEOs: Larger product variety, more business opportunities, more power for large firms, privatization of public services, poor countries catching up with rich countries, and environmental problems.

Models 13 and 14 focus on respondents' trust in the WTO and show first of all that people who know the WTO better are more likely to trust this organization. This is in line with Ehrmann et al. (2010) and Kalthenthaler et al. (2010) who present a similar result with regard to the ECB. More importantly, the beliefs that the EU is well-presented in the WTO, that the WTO has a good reputation, and that the WTO is a democratic and necessary institution are positively associated with a higher likelihood of trust in the WTO. The marginal effects for the WTO's good reputation and of the attitude that the WTO is a

necessary institution amount to comparatively high values of 14.3% and 17.1%, respectively. To summarize, we cannot reject hypotheses 2 and 3.

Table 3 Macroeconomic determinants of trust in the IMF, World Bank, and WTO, probit estimations

	Model 15	Model 16	Model 17	Model 18	Model 19	Model 20
Dependent variable	Trust in IMF	Trust in World Bank	Trust in WTO	Trust in IMF	Trust in World Bank	Trust in WTO
<i>Macroeconomic factors</i>						
KOF-globalization index	0.046*** (2.654) 0.010	0.063*** (3.118) 0.017	0.061*** (3.581) 0.017	0.046*** (4.290) 0.009	0.061*** (4.160) 0.016	0.062*** (4.688) 0.018
Unemployment rate	0.001 (0.027) 0.000	-0.009 (-1.377) -0.002	-0.033 (-1.591) -0.009	0.002 (0.108) 0.000	-0.010 (-0.548) -0.002	-0.036* (-1.912) -0.010
Inflation rate	-0.009 (-0.144) -0.002	-0.090 (-1.245) -0.024	-0.080 (-1.406) -0.023	0.000 (0.005) 0.000	-0.082 (-1.220) -0.021	-0.087* (-1.844) -0.025
<i>Demographic factors</i>	yes	yes	yes	yes	yes	yes
<i>International background</i>	yes	yes	yes	yes	yes	yes
<i>Marital status</i>	yes	yes	yes	yes	yes	yes
<i>Employment status</i>	yes	yes	yes	yes	yes	yes
<i>Formal education till age</i>	yes	yes	yes	yes	yes	yes
<i>Income quartiles</i>	yes	yes	yes	yes	yes	yes
<i>Ideological preferences</i>	yes	yes	yes	yes	yes	yes
<i>Political interest</i>	no	no	no	yes	yes	yes
<i>Use of news sources</i>	no	no	no	yes	yes	yes
<i>News interests</i>	no	no	no	yes	yes	yes
<i>Area of residence</i>	no	no	no	yes	yes	yes
Pseudo R ²	0.069	0.073	0.069	0.095	0.087	0.085
Observations	9014	9014	9014	8458	8458	8458

^a Marginal effects at mean values of explanatory variables are in italics, z-statistics are in parentheses. ^b Significance at 10% (*), 5% (**), 1% (***). ^c Base levels for dummy variables: female, single, employed, education until age < 15 years, native (i.e. national language is mother tongue), living in a large town. Ideological preferences defined as -1 (left-wing), 0 (center), +1 (right-wing); relative income scaled as 1 (lowest income quartile) to 4 (highest quartile). ^d Standard errors are clustered at the country-level.

Table 3 eventually tests the validity of hypotheses 4 and 5 and focuses on the relevance of macroeconomic determinants for individual trust in the three IEOs. In order to save space, the table does not display the coefficients, z-statistics and marginal effects for the variables at the individual-level. Models 15 to 17 include only those variables at the individual level for which there are no missing observations, while models 16 to 18 include 15 additional variables. This is the same structure that we used in table 1. Moreover, since the data has been collected in one year only, we were forced to drop the country fixed effects and are essentially estimating a pooled sample. However, we do employ country-clustered standard errors to take into account country-specific influences.

Models 15 to 20 provide strong evidence that people who live in more economically, socially, and politically integrated countries are more likely to express trust in international

organizations. In fact, an increase in the KOF-index by 1 point leads to an increase in the likelihood of trusting the three IEOs by about 1% to 2%. Second, we find that only institutional trust in the WTO is influenced by the unemployment rate and the inflation rate, where the coefficients are only significant at the 10% level. For the other two IEOs, there is no indication that the state of the economy matters for trust in international organizations. An explanation may be that people are more likely to blame national institutions for deteriorations in the macroeconomic development in a certain country. To summarize, we reject hypothesis 4, while we cannot reject hypothesis 5.

4.2 Sensitivity analysis

In order to test the robustness of the results presented in section 4.1, we conduct a robustness check that addresses a potential measurement problem with regard to the dependent variables used in tables 1 to 3. Respondents were asked to select those institutions that they trust *most* to get the effects of globalization under control. Hence, for instance if an individual only names the IMF and none of the other 14 organizations, this expresses a relatively higher extent of trust for this particular institution than if this individual mentioned all 15 institutions (see section 3.1 for a complete list of these institutions).

Therefore, we divided the 0 or 1 indicating trust in a particular IEO by the total number of institutions that were mentioned. Hence, the dependent variable is now for each respondent any number between 0 and 1.²⁰ For this reason, these estimations are not conducted with the binary probit estimator but with an OLS estimator. With regard to the explanatory variables, the models in table 4 are equivalent to those in table 2. Therefore we have numbered the models accordingly from 7b to 14b.

First, it should be noted that the coefficients for the demographic factors, international background, marital and employment status, relative income, and political preferences are quite similar to those in tables 1 and 2, even though the level of significance is on average lower. A similar statement can be made with regard to the coefficients for respondents' attitudes towards globalization and their opinions regarding the WTO.

For brevity, we will only discuss in what ways the results differ from the previous estimations. First, the belief that globalization contributes to peace is not correlated anymore with trust in the WTO. The same is true with regard to the belief that globalization

²⁰ Note that 1,011 of 9,014 respondents do not tend to trust any of the 14 institutions. Since it is not possible to divide by 0, we assigned the value 0 to these cases.

guarantees the EU greater economic presence in the world and trust in the IMF and WTO. People who hold the view that globalization provides more opportunities for national products on world markets only tend to trust the World Bank more, but not the other two IEOs. Moreover, the opinion that globalization cannot be controlled by national governments does not reduce trust in the WTO as it did in table 2.

Table 4 Robustness check: Rescaled dependent variables, OLS estimations

	Model 7b	Model 8b	Model 9b	Model 10b	Model 11b	Model 12b	Model 13b	Model 14b
Dependent variable	Trust in IMF	Trust in World Bank	Trust in WTO	Trust in IMF	Trust in World Bank	Trust in WTO	Trust in WTO	Trust in WTO
<i>Demographic factors</i>								
Male	0.004 (1.326)	0.012*** (2.954)	0.006 (1.240)	0.005 (1.563)	0.010** (2.329)	0.001 (0.232)	-0.007 (-0.969)	0.002 (0.281)
Age	0.001 (1.404)	0.002** (2.100)	-0.001 (-1.171)	0.000 (0.040)	0.002** (2.089)	-0.002 (-1.621)	-0.001 (-0.703)	-0.001 (-0.648)
Age^2	-0.000 (-0.863)	-0.000** (-1.988)	0.000 (1.008)	0.000 (0.037)	-0.000* (-1.686)	0.000 (1.262)	0.000 (0.479)	0.000 (0.443)
<i>International background</i>								
Foreigner	-0.014** (-2.209)	-0.035*** (-4.878)	-0.010 (-0.673)	-0.009 (-1.298)	-0.025*** (-2.641)	-0.006 (-0.392)	0.001 (0.051)	-0.006 (-0.263)
Foreign languages	0.003* (1.703)	0.005** (2.025)	0.002 (0.743)	0.002 (0.873)	0.005* (1.818)	0.002 (0.623)	0.003 (0.803)	0.001 (0.200)
<i>Marital status</i>								
Married	-0.004 (-0.856)	-0.007 (-1.183)	0.012* (1.772)	-0.007 (-1.375)	-0.011* (-1.739)	0.001 (0.146)	0.012 (1.265)	0.005 (0.565)
Divorced	-0.002 (-0.219)	0.004 (0.416)	-0.007 (-0.696)	0.002 (0.207)	0.001 (0.048)	0.001 (0.133)	-0.002 (-0.126)	-0.006 (-0.439)
Separated	-0.010 (-0.795)	0.007 (0.438)	0.011 (0.742)	-0.017 (-1.411)	-0.009 (-0.547)	-0.007 (-0.419)	0.005 (0.214)	-0.021 (-1.110)
Widowed	-0.010 (-1.197)	-0.012 (-1.312)	0.019 (1.438)	-0.011 (-1.320)	-0.013 (-1.251)	0.015 (1.060)	0.014 (0.724)	0.014 (0.686)
<i>Employment status</i>								
Unemployed	0.013 (1.585)	-0.011 (-1.235)	0.001 (0.086)	0.007 (1.087)	-0.007 (-0.687)	0.001 (0.116)	-0.017 (-1.549)	-0.014 (-1.188)
School	0.011 (1.372)	-0.003 (-0.387)	0.012 (1.059)	0.002 (0.185)	-0.003 (-0.382)	-0.005 (-0.474)	-0.007 (-0.525)	-0.005 (-0.340)
Retired	0.005 (0.831)	0.003 (0.376)	0.001 (0.121)	0.008 (1.359)	0.001 (0.126)	0.007 (0.629)	0.006 (0.392)	-0.011 (-0.831)
Home	0.005 (0.920)	-0.000 (-0.017)	0.009 (0.971)	-0.001 (-0.211)	-0.003 (-0.351)	-0.000 (-0.026)	0.002 (0.128)	-0.004 (-0.249)
Self-employed	0.011 (1.508)	-0.004 (-0.512)	0.004 (0.479)	0.014* (1.873)	-0.001 (-0.094)	0.011 (1.096)	0.003 (0.264)	-0.014 (-1.290)
<i>Formal education till age</i>								
16 to 19 yrs	0.003 (0.781)	0.001 (0.134)	0.002 (0.236)	-0.002 (-0.516)	0.006 (1.020)	-0.002 (-0.293)	0.001 (0.135)	-0.005 (-0.457)
>= 19 yrs	0.021*** (4.011)	0.011* (1.876)	0.008 (0.940)	0.013** (2.372)	0.012* (1.796)	0.005 (0.536)	0.008 (0.691)	0.011 (0.962)
<i>Income quartiles</i>								
Relative income	0.008*** (4.860)	0.008*** (3.731)	0.007*** (2.698)	0.008*** (4.701)	0.008*** (3.383)	0.011*** (3.984)	0.003 (0.933)	0.010*** (2.634)
<i>Political attitudes</i>								
Ideological preferences	0.005** (2.503)	0.006** (2.136)	0.005 (1.598)	0.007*** (3.273)	0.007** (2.390)	0.007** (2.230)	0.002 (0.415)	0.002 (0.496)
<i>Attitudes towards globalization</i>								
Globalization: less armed conflicts	-0.000 (-0.068)	0.000 (0.023)	0.002 (0.391)					
Globalization: global market	0.004 (1.009)	0.002 (0.321)	0.012** (2.083)					

Globalization: economic EU presence	0.002 (0.573)	0.004 (0.682)	0.001 (0.165)					
Globalization: product markets	0.007 (1.496)	0.010* (1.938)	0.010 (1.617)					
Globalization: product variety	0.002 (0.512)	0.006 (1.152)	0.006 (0.935)					
Globalization: lower product prices	0.002 (0.530)	-0.002 (-0.506)	0.012** (2.350)					
Globalization: business opportunity	0.000 (0.062)	0.001 (0.196)	-0.004 (-0.800)					
Globalization: food control problem	-0.008** (-2.114)	-0.005 (-1.016)	-0.003 (-0.532)					
Globalization: large company power	-0.002 (-0.481)	-0.003 (-0.577)	0.003 (0.530)					
Globalization: no government control	0.003 (0.759)	0.001 (0.207)	-0.004 (-0.679)					
Globalization: public service privatized				0.001 (0.235)	-0.006 (-1.232)	0.001 (0.116)		
Globalization: job opportunities				0.013*** (3.404)	0.010* (1.896)	0.007 (1.027)		
Globalization: risk losing jobs				0.001 (0.145)	-0.008* (-1.650)	-0.007 (-1.177)		
Globalization: developing countries				0.000 (0.042)	-0.005 (-0.943)	0.006 (1.056)		
Globalization: immigration problem				-0.006* (-1.717)	-0.004 (-0.850)	-0.006 (-1.100)		
Globalization: rich and poor gap				-0.005 (-1.350)	0.004 (0.836)	-0.001 (-0.090)		
Globalization: travel easier				-0.001 (-0.231)	0.007 (1.168)	0.011 (1.559)		
Globalization: uniform world				-0.001 (-0.435)	-0.004 (-0.855)	-0.012** (-2.163)		
Globalization: environment problems				0.000 (0.015)	-0.004 (-0.862)	-0.001 (-0.138)		
Globalization: quality of life				0.003 (0.804)	0.005 (1.130)	-0.006 (-1.218)		
WTO - known						0.013*** (4.575)		
WTO: guarantees liberalization benefit						-0.008 (-0.918)		
WTO: ensures fair competition rules						0.012 (1.521)		
WTO: EU is well represented						0.010 (1.157)		
WTO: good reputation						0.046*** (5.665)		
WTO: referee of trade disputes							0.001 (0.127)	
WTO: works transparent							0.001 (0.076)	
WTO: is democratic							0.012 (1.362)	
WTO: defending interests vs. USA							0.002 (0.320)	
WTO: is necessary							0.047*** (5.802)	
R ²	0.055	0.085	0.058	0.055	0.086	0.057	0.075	0.056
Observations	4426	4426	4426	4029	4029	4029	2710	2581

^a t-statistics are in parentheses. ^b Hypotheses tests are based on robust standard errors. ^c All estimations include country fixed effects. ^d Significance at 10% (*), 5% (**), 1% (***). ^e Base levels for dummy variables: female, single, employed, education until age < 15 years, native (i.e. national language is mother tongue), living in a large town. Ideological preferences defined as -1 (left-wing), 0 (center), +1 (right-wing); relative income scaled as 1 (lowest income quartile) to 4 (highest quartile).

The results for models 10b to 12b also differ in some respects from those for models 10 to 12. The beliefs that global economic integration provides interesting job opportunities in other countries and that globalization increases the risk of people losing their jobs does not influence trust in the WTO. In addition, in table 4 people who believe that globalization facilitates travelling are not more likely to trust the WTO, while the belief that globalization leads to a duller, more uniform world is irrelevant for trust in the IMF and World Bank. Finally, it appears that the belief that globalization contributes to a higher quality of life is not relevant anymore for trust in the IMF and the World Bank as it was in table 2.

From models 13b and 14b, we can infer that the views that the EU is well-represented in the WTO and that the WTO is democratic do not have an influence on the extent of trust in the WTO. To conclude, the rescaling of the dependent variable has not affected our estimation results to a large degree, even though in general some coefficients have become insignificant. For a sizable number of determinants, we continue to find significant results.

5 Concluding remarks

The objective of this study has been to investigate what drives people's trust in three IEOs: the IMF, the World Bank, and the WTO. This is a question that has so far not been addressed in any existing study in the literature. The empirical analysis is based on a Eurobarometer survey conducted in April/May 2001, which includes survey data for 9,014 respondents across the EU-15 countries. In addition to a number of individual characteristics and macroeconomic variables that have been shown in the existing literature to affect either social trust, international trust or trust in other international organizations, we add some additional individual characteristics, about thirty measures for respondents' attitudes towards globalization and the WTO in particular.

The estimation results that individual characteristics (gender, international background, formal education level, income level, ideological preferences, interest in politics, exposure to media, interest in specific news domains) as well as the extent of globalization matter for trust in the IEOs. On the other hand, the state of the economy only has an influence on trust in the WTO, but is insignificant with regard to trust in the IMF and the World Bank. This may be an indication that people would rather blame national institutions for macroeconomic distortions. Moreover, people seem to project positive as well as negative attitudes towards globalization to their level of trust in the three IEOs.

Finally, trust in the WTO grows with knowledge about the WTO and is shaped by beliefs that the EU is well-represented in the WTO, that the WTO has a good reputation, and that the WTO is a democratic and necessary institution.

The question that arises finally is what international bureaucrats can do in order to increase citizens' trust in international organizations, which should ultimately strengthen the legitimacy of these institutions. First of all, as has been emphasized by Ehrmann et al. (2010) in the context of the ECB, it is recommendable for IEOs to inform people better about their objectives and the policies that they pursue. Second, the perception that an institution is democratic has a positive influence on trust in the case of the WTO. If this applies to other international organizations as well, one may wonder whether - as discussed by Frey and Stutzer (2006a,b) and Tullock (2006) - citizens should be more strongly involved in the determination of ground rules and policy formulations of IEOs.

Appendix

Table 5 Survey questions of Eurobarometer 55.1 included in regressions

Variable	Survey Question in Eurobarometer 55.1
Trust in IMF, World Bank, WTO	<i>Globalization is a general opening up of all economies, which leads to the creation of a truly world-wide market. From the following list, who do you trust most to get the effects of globalization under control? 0 Not mentioned, 1 Mentioned</i>
Political discussions – frequency	<i>When you get together with friends, would you say you discuss political matters frequently (3), occasionally (2), or never (1)?</i>
Political discussions – convince friends	<i>When you hold a strong opinion, do you ever find yourself persuading your friends, relatives or fellow workers to share your views? Does this happen...? 1 Often, 2 From time to time, 3 Rarely, 4 Never</i>
Television use – news	<i>About how often do you...watch the news on television? 1 Everyday, 2 Several times a week, 3 Once or twice a week, 4 Less often, 5 Never</i>
Daily newspapers use – news	<i>About how often do you...read the news in daily papers? 1 Everyday, 2 Several times a week, 3 Once or twice a week, 4 Less often, 5 Never</i>
Radio use – news	<i>About how often do you listen to the news on the radio? 1 Everyday, 2 Several times a week, 3 Once or twice a week, 4 Less often, 5 Never</i>
Attention to news: politics	<i>In general, do you pay attention to news about each of the following? 1 A lot of attention, 2 A little attention, 3 No attention at all</i> <i>Politics</i>
Attention to news: social issues	<i>Social issues such as education, health care, poverty, etc.</i>
Attention to news: European Union	<i>European Union</i>
Attention to news: economy	<i>The economy</i>
Attention to news: sport	<i>Sport</i>
Attention to news: environment	<i>The environment</i>
Attention to news: International affairs	<i>Foreign policy / international affairs</i>
Attention to news: culture	<i>Culture</i>
	<i>The media often talk about globalization. Do you tend to agree (1) or tend to disagree (0) with each of the following statements? Globalization...</i>

Globalization: less armed conflicts	<i>Contributes to eliminating armed conflicts around the world</i>
Globalization: global market	<i>Creates a truly global market</i>
Globalization: economic EU presence	<i>Guarantees the European Union greater economic presence in the world</i>
Globalization: product markets	<i>Provides more opportunities for national products on world markets</i>
Globalization: product variety	<i>Increases the variety of products</i>
Globalization: lower product prices	<i>Cuts the prices of products and services through increased competition</i>
Globalization: business opportunity	<i>Gives small and medium sized businesses an opportunity to grow much faster</i>
Globalization: food control problem	<i>Makes it more difficult to control the quality of food products</i>
Globalization: large company power	<i>Leads to power being concentrated in large companies, at the expense of others</i>
Globalization: no government control	<i>Cannot be controlled by governments</i>
Globalization: public service privatized	<i>Leads to the privatization of public services in Europe</i>
Globalization: job opportunities	<i>Gives us interesting job opportunities in other countries</i>
Globalization: risk losing jobs	<i>Increases the risk of people losing their jobs</i>
Globalization: developing countries	<i>Gives developing countries the opportunity to reduce the gap between themselves and developed countries</i>
Globalization: immigration problem	<i>Leads to an uncontrollable increase in immigration</i>
Globalization: rich and poor gap	<i>Increases the gap between the rich and the poor</i>
Globalization: travel easier	<i>Makes it easier to travel</i>
Globalization: uniform world	<i>Leads to a duller and more uniform world</i>
Globalization: environment problems	<i>Increases global environmental problems</i>
Globalization: quality of life	<i>Provides a better personal quality of life</i>
WTO – known	<i>Before this interview, had you heard of the World Trade Organisation (WTO)? 5 Yes, I know what the WTO is and what it does, 4 Yes, but I only know a little about it, 3 Yes, but I only know the name, 2 Yes, other, 1, No, not heard of</i>
	<i>The World Trade Organisation (WTO) is the only international organisation dealing with rules regulating trade between countries. It has 140 member countries. Its goal is to help exporters, and importers of goods and services to conduct their business. Do you think that...? Yes (1), No (0)</i>
WTO: guarantees liberalization benefit	<i>WTO guarantees that people benefit from liberalisation</i>
WTO: ensures fair competition rules	<i>WTO has enough power to ensure that the rules of fair competition are respected</i>
WTO: EU is well represented	<i>The European Union is well represented within the WTO</i>
WTO: good reputation	<i>WTO has a good reputation</i>
WTO: referee of trade disputes	<i>WTO is an impartial referee of trade disputes between states</i>
WTO: works transparent	<i>The workings of the WTO are transparent</i>
WTO: is democratic	<i>WTO is democratic</i>
WTO: defending interests vs. USA	<i>There is a country or group of countries strong enough to defend their interests in the WTO against the United States</i>
WTO: is necessary	<i>WTO is necessary</i>

Table 6 Summary statistics

Variable	Mean	Std. dev.	Min	Max	Observations
Trust in IMF	0.146	0.353	0	1	9014
Trust in World Bank	0.2	0.4	0	1	9014
Trust in WTO	0.224	0.417	0	1	9014
Male	0.5	0.5	0	1	9014
Age	45.762	17.215	15	99	9014
Foreigner	0.094	0.292	0	1	9014
Foreign languages	0.936	1.016	0	7	9014
Married	0.622	0.485	0	1	9014
Divorced	0.067	0.25	0	1	9014
Separated	0.015	0.121	0	1	9014
Widowed	0.088	0.283	0	1	9014
Unemployed	0.055	0.229	0	1	9014
School	0.075	0.263	0	1	9014
Retired	0.234	0.423	0	1	9014
Home	0.095	0.294	0	1	9014

Self-employed	0.073	0.261	0	1	9014
Education till 16-19 yrs of age	0.393	0.488	0	1	9014
Education till >= 19 yrs of age	0.345	0.476	0	1	9014
Income quartile	2.566	1.108	1	4	9014
Ideological preferences	-0.101	0.751	-1	1	9014
Political discussions – frequency	1.861	0.622	1	3	8949
Political discussions – convince friends	2.45	0.957	1	4	8907
Television use – news	4.569	0.817	1	5	8999
Daily newspapers use – news	3.833	1.393	1	5	8987
Radio use – news	3.825	1.406	1	5	8978
Attention to news: politics	2.171	0.674	1	3	8975
Attention to news: social issues	2.544	0.593	1	3	8973
Attention to news: European Union	1.984	0.692	1	3	8929
Attention to news: economy	2.207	0.716	1	3	8945
Attention to news: sport	2.074	0.813	1	3	8968
Attention to news: environment	2.4	0.638	1	3	8949
Attention to news: International affairs	2.041	0.722	1	3	8931
Attention to news: culture	2.149	0.700	1	3	8925
Rural area or village	0.305	0.461	0	1	8932
Small-/medium-sized town	0.416	0.493	0	1	8932
Globalization: less armed conflicts	0.562	0.496	0	1	7300
Globalization: global market	0.741	0.438	0	1	7339
Globalization: economic EU presence	0.715	0.451	0	1	7172
Globalization: product markets	0.737	0.44	0	1	7635
Globalization: product variety	0.862	0.344	0	1	7939
Globalization: lower product prices	0.629	0.483	0	1	7501
Globalization: business opportunity	0.497	0.5	0	1	7059
Globalization: food control problem	0.74	0.439	0	1	7660
Globalization: large company power	0.823	0.382	0	1	7393
Globalization: no government control	0.678	0.467	0	1	7111
Globalization: public service privatized	0.702	0.457	0	1	6362
Globalization: job opportunities	0.765	0.424	0	1	7509
Globalization: risk losing jobs	0.6	0.49	0	1	7316
Globalization: developing countries	0.591	0.492	0	1	7176
Globalization: immigration problem	0.655	0.475	0	1	7414
Globalization: rich and poor gap	0.707	0.455	0	1	7429
Globalization: travel easier	0.859	0.348	0	1	7920
Globalization: uniform world	0.426	0.495	0	1	7209
Globalization: environment problems	0.663	0.473	0	1	7332
Globalization: quality of life	0.402	0.49	0	1	6705
WTO - known	2.915	1.4	1	5	8826
WTO: guarantees liberalization benefit	0.592	0.491	0	1	5408
WTO: ensures fair competition rules	0.518	0.5	0	1	5484
WTO: EU is well represented	0.769	0.421	0	1	4321
WTO: good reputation	0.708	0.455	0	1	4448
WTO: referee of trade disputes	0.642	0.479	0	1	4756
WTO: works transparent	0.409	0.492	0	1	4180
WTO: is democratic	0.646	0.478	0	1	4369
WTO: defending interests vs. USA	0.62	0.486	0	1	4770
WTO: is necessary	0.871	0.335	0	1	5705
KOF-globalization index	86.461	3.891	78.724	92.394	9014
Unemployment rate	6.46	2.417	2.518	10.784	9014
Inflation rate	2.706	0.919	1.236	4.876	9014
Rescaled trust in IMF	0.035	0.099	0	1	9014
Rescaled trust in World Bank	0.054	0.132	0	1	9014
Rescaled trust in WTO	0.067	0.156	0	1	9014

^a Base levels for dummy variables: female, single, employed, education until age < 15 years, native (i.e. national language is mother tongue), living in a large town. ^b In the sample there is indeed one individual aged 99 years.

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